

**Remarks:**

This application has been reviewed carefully in view of the Office Action mailed October 2, 2006, ("the Office Action"). In the Office Action, claim 1 was rejected under 5 35 U.S.C. § 103(a), as unpatentable over the Patel et al. patent, U.S. Patent No. 6,484,521, in view of the Morris patent, U.S. Patent No. 5,393,348.

Applicants note with appreciation that objected-to claims 2-16 were acknowledged to be allowable over the references of record if rewritten in independent form, and that 10 claims 17-53 were allowed.

**1. There Is No Suggestion to Combine Patel et Al. And Morris**

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation to modify the reference or combine the reference teachings. The teaching or 15 suggestion to make the claimed combination must be found in the prior art and not based on an applicant's disclosure. (See, M.P.E.P. § 706.02(j)).

The Office Action fails to identify any suggestion to combine Patel et al. and Morris. Moreover, the Morris patent identifies but one purpose for its disclosed device, 20 and but one problem that the device is directed to overcoming. Neither of these are applicable to the Patel et al. device.

More particularly, the utility of the Morris device is "in the area of spray-coating of printed circuit boards with photo-imageable resist material," and more broadly is 25 applicable to "spray-coating with other types of liquid materials" (see, col. 1, lines 12-17). The problem addressed by the Morris device is circuit board over-spray, which is spray that entirely misses passing circuit boards (between passing boards or beyond their sides), collecting in inopportune places such as on moving belts that carry the circuit boards, potentially increasing material and clean-up costs, and potentially damaging the device 30 (see, col. 1, lines 23-38).

The Patel et al. device neither pertains to the coating of circuit boards, nor suffers from the problems of over-spray. Thus, there is no teaching or suggestion in Morris to make the claimed combination. Because the cited art fails to contain a suggestion to combine the Patel et al. and Morris devices, Applicants respectfully request the rejection of claim 1 be withdrawn.

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## **2. Claim 1 Has Been Amended to Overcome the Rejection**

Applicants note with appreciation the Examiner's further explanation of the claim construction used in the rejection of claim 1. More particularly, the Office Action recites 10 that Applicant claims a delivery system, but never positively claims delivering cooling fluid.

Being an apparatus claim, claim 1 of course cannot claim the method step of delivery. However, it can be amended to recite that it is configured to cool a component. 15 Therefore, claim 1 has been amended to recite a sprayer configured to cool a component by spraying cooling fluid. In light of this amendment, Applicants respectfully request the rejection of claim 1 be withdrawn.

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## **3. Additional Claim Amendments Explained**

Claims 2, 12 and 14-16 depended directly from original independent claim 1, and 20 were found allowable if made independent while incorporating all the limitations of original claim 1. Claims 3-11 and 13 depend from claims 2 and 12, respectively. Following the Examiner's suggestion, claims 2, 12 and 14-16 have been amended to incorporate the limitations of original claim 1. Applicants respectfully request the 25 objection to claims 2-16 be withdrawn in light of these amendments.

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New claims 54-58 depend from amended claim 1, and recite limitations substantially the same as original, objected-to claims 2, 12 and 14-16. Applicants respectfully request these claims be found allowable.

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4. **The Morris Patent Is Not Analogous Art**

Applicants respectfully reassert the argument (from Applicants response filed February 1, 2006) that the Morris Patent is not analogous art. The field of the applicants' endeavor, in its broadest recitation, pertains to a cooling system for heat generating devices. The field of the Morris patent pertains to the apparatus for spray-coating work pieces, such as printed circuit boards, during their manufacture, and has nothing to do with cooling. Moreover, the Morris patent discloses a device intended to solve the problem of over-spray, that is to say the spraying of coating material onto the manufacturing equipment itself, rather than onto the work piece. The Patel et al. patent discloses a spray-cooling device using an incremental sprayer, wherein the flow rate "can be varied to adjust the flow rate to an optimal level" (Patel et al., col. 6, lines 43-45).

"[I]t is necessary to consider the reality of the circumstances, . . . -in other words, common sense -in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor." In re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992). "The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself. . . ." In re Oetiker, at 1446.

"[W]ith regard to prior art outside the field of [the inventor's] endeavor, we only presume knowledge from those arts reasonably pertinent to the particular problem with which the inventor was involved. The rationale behind this rule precluding rejections based on combination of teachings of references from nonanalogous arts is the realization that an inventor could not possibly be aware of every teaching in every art." In re Clay, 966 F.2d 656, 23 U.S.P.Q. 2d 1058, 1060-61 (Fed. Cir. 1992).

30 The Patel et al. device does not suffer from over-spray (i.e., the spraying of fluid on surfaces other than those intended), the problem for which the Morris patent purportedly provides a solution. Indeed, the Patel et al. device explicitly teaches sensors to prevent the

excessive spraying of cooling-fluid on the intended spray surfaces. Thus, the Patel et al. device fails to suffer any deficiency for which the Morris patent teaches a solution.

Moreover, those skilled in the art of applicants' invention would not turn to manufacturing device spray-coating patents to come up with new technology for forming "an easily maintainable spray-cooling system that maximizes spray-cooling efficiency for a plurality of components on a printed circuit board, while minimizing system cost" (the problem facing the present applicant, as described at the end of the Background of the Invention).

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Thus, the scope of claim 1 (pertaining to a delivery system for delivering cooling fluid to cool a hot component) does not justify incorporating significantly different arts into the application's relevant prior art. Moreover, the cited references to not disclose a problem and a solution to justify combining patents from two disparate arts.

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Because Morris is not analogous art, applicants respectfully request the rejection of claim 1 be withdrawn.

Appl. No. 10/664,256  
Amendment, dated January 2, 2007  
In Response to Office Action dated May 5, 2006

**5. Conclusion**

In view of the foregoing, Applicants respectfully request that a timely Notice of Allowance be issued in this case.

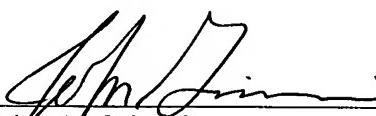
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Respectfully submitted,

BASH et al.

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By:



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John A. Griecci  
Registration No. 39,694

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For: The Law Office of John A. Griecci

703 Pier Avenue, Suite B #657  
Hermosa Beach, CA 90254  
(310) 376-6527